Daily GLOWBUGS

Digest: V1 #124

via AB4EL Web Digests @ SunSITE

Purpose: building and operating vacuum tube-based QRP rigs

AB4EL Ham Radio Homepage @ SunSITE

%%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%% GlowBugs %%%%%

Subject: glowbugs V1 #124
glowbugs Tuesday, September 30 1997 Volume 01 : Number 124

Date: Mon, 29 Sep 1997 18:25:10 +0000
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: CX Contest!

My third "CX"! Got most everything up and running except my SX-71 and the Viking Ranger 2! Didn't have any more space to set things up! 20 meters yielded W8KGI, Jim who was worked several times. 40 was nice until the digital and Spanish SSB QRM started! 80 meters was exceptionally good and I made a bunch of contacts with the old '10 Hartley and the regenny receiver. Several of the guys immediately recognized my wavering note with the Hartley! I HAD to use it longer than I planned as I had "VCR TVI" during a 2 hour period with my neighbor with anything BUT the Hartley! I heard W8ZR, Jim's buzzy sounding FPM-200 for the first time. It didn't sound THAT BAD to me! My RK-34 rig used a rock that was a bit "yoopy" sounding, so some guessed I had the Hartley on 40. Marty, AA4RM sounded harried by his TCS relays! Someone even turned up with a Howard receiver this time! Who was that masked man? I need to built a "switcher" that will handle about 5-6 rig combinations at the same time, so that the antennas can be switched rapidly to other gear. Some means of audio muting has to be accomplished too so that you don't run yourself out of the shack with howls from the "standby" gear that is sitting on the frequency hot and ready for use! This can become a nightmare! Gee, I need at least four arms sometimes.

Enjoyed this one very much, looking forward to the next one! Now to get to work on the 860 ECO Hartley that should run more power output than my '10 one!

Looks like my score was = 628,320. Better than last year? (Unless I screwed up calculating it again!)
73,

E. V. Sandy Blaize, W5TVW

"Boat Anchors collected, restored, repaired, traded and used!"
417 Ridgewood Drive
Metairie, LA., 70001

Date: Mon, 29 Sep 1997 21:50:46 -0700
From: Walt Turansky <turansky@xroads.com>
Subject: Regenerative Weekend

I regenerated myself while re-doing the ole regenny this weekend.

Here is what I started with:

30 detector with 11 M ohm grid leak, 20 pF grid coupling cap. The tuning cap is a small, antique brass, single plate with 20 pF of padding caps driven by a vernier dial. The coil is 40 turns of #14 house wire on a 2 3/8" diameter piece of plastic pipe. Antenna coupling is a single turn of #14 wire about 4 1/2" in diameter spaced equidistantly around the coil about half-way up. Regeneration control is by throttle condenser which is an antique brass cap of about 150 pf padded with 100 pF of silver-micas. I'm running 45 volts on the plate. The audio stage is a 30 that is tranformer coupled with 45 volts on the plate.

With this configuration, the radio tuned the whole 80 meter band and I wanted to narrow the tuning to 3500-3600 Kc over the whole 100 dial scale. I wound a new coil which turned out to be 50 turns of #20 bell wire on a 2 3/8" diameter plastic pipe with a 10 turn tickler and a one turn antenna link. Then I removed two stator plates from the tuning cap and changed the fixed padding caps to a 15 pF variable. Voila, 3500 to 3600 on the whole scale.

Next step was to try a 32 screen grid tube as the detector. I changed the grid leak to 22M ohm and the grid coupling cap to 12 pF and hooked the screen to 22.5 volts. I turned it on and couldn't get it out of oscillation so I removed the padding cap from the throttle. It had a bit of a howl so I put a 250K ohm resistor across the secondary of the interstage transformer and cured the problem. WOW!, more sensitivity and VERY! smooth regen control; CW was booming in very selectively. I decided to see if I could slice the sidebands off SSB so I moved the padder to the high end of the band. Sure enough, with the throttle on the very edge of oscillation, the signals were un-intelligable.

I'm fully regenerated from this experience and am very happy that Conard suggested a topic of the month. I still want to add another audio stage that I plan to peak for 1000 Hz. I also want to build a UY-227 set to compare to this battery set so I think I'll be busy in October.

I have a couple of questions. I'm running 45 volts on the plate and 22.5 volts on the screen; the old handbooks suggest 30 volts on the screen and 135 volts on the plate as the optimum operating condition. Does anyone have experience comparing the two conditions? If I add the 2nd audio stage, I think I will need a means to adjust the RF gain. Do any of you have suggestions as to how to do this. I'm thinking of varying the antenna coupling. Any suggestions?

73 de N7QFN,
Walt

Date: Tue, 30 Sep 1997 08:23:03 -0500
From: Conard Murray <cfm5723@tntech.edu>
Subject: Gain control

Hi Walt and everyone,
Good Show!
I bet you did have fun with all that regenning going on. If I was adding a peaked audio stage I would vary the audio drive to the second amplifier with a pot. It sounds like you have the RF end of the rig perking quite nicely and trying to adjust signal level with variable coupling would probably (depending on antenna) cause your detector to go nuts.
Keep on glowbugging!
73 and ZUT!
de Conard WS4S <><

Date: Tue, 30 Sep 1997 11:57:24 -0400 (EDT)
From: rdkeys@csemail.cropsci.ncsu.edu
Subject: Re: Regenerative Weekend

> I regenerated myself while re-doing the ole regenny this weekend.

Excellent! Ole BA Bob is lurking, but if I can squeek some time
I will try to fire up something this weekend, on the regenerator, Miss
Twinnie Triode, and ol' Grandma Hartley. I, likewise need some rejuving.

> Here is what I started with:
>
> 30 detector with 11 M ohm grid leak, 20 pF grid coupling cap. The tuning
> cap is a small, antique brass, single plate with 20 pF of padding caps
> driven by a vernier dial. The coil is 40 turns of #14 house wire on a 2
> 3/8" diameter piece of plastic pipe. Antenna coupling is a single turn of
> #14 wire about 4 1/2" in diameter spaced equidistantly around the coil
> about half-way up. Regeneration control is by throttle condenser which is
> an antique brass cap of about 150 pf padded with 100 pF of silver-micas.
> I'm running 45 volts on the plate. The audio stage is a 30 that is
> tranformer coupled with 45 volts on the plate.

Sounds like a winner of the triode type, and the high resistance grid leak
used in conjunction with the tiny coupling cap and the loosest coupling
possible is THE way to go on a regenerator.

> With this configuration, the radio tuned the whole 80 meter band and I
> wanted to narrow the tuning to 3500-3600 Kc over the whole 100 dial scale.
> I wound a new coil which turned out to be 50 turns of #20 bell wire on a 2
> 3/8" diameter plastic pipe with a 10 turn tickler and a one turn antenna
> link. Then I removed two stator plates from the tuning cap and changed the
> fixed padding caps to a 15 pF variable. Voila, 3500 to 3600 on the whole
> scale.

I use a single plate cap to cover 3500-3600, with a single stator plate.
You have to fiddle with the padding a bit to get it to track right on
3500-3600, but it works great after the fiddlin'.

> Next step was to try a 32 screen grid tube as the detector. I changed the
> grid leak to 22M ohm and the grid coupling cap to 12 pF and hooked the
> screen to 22.5 volts. I turned it on and couldn't get it out of oscillation
> so I removed the padding cap from the throttle. It had a bit of a howl so I
> put a 250K ohm resistor across the secondary of the interstage transformer
> and cured the problem. WOW!, more sensitivity and VERY! smooth regen
> control; CW was booming in very selectively. I decided to see if I could
> slice the sidebands off SSB so I moved the padder to the high end of the
> band. Sure enough, with the throttle on the very edge of oscillation, the
> signals were un-intelligable.

Ahh, this warms me ole ticker, fer sure......(:+}}... You have found the
great Nirvana of Regeneratordom, and are of the One True Enlightenment!
Well Done!!!!

A few though I be a tad titched espousing thusly.....``a GOOD regenerator
can cut the SideBands off a SillySideBand signal, yup, yup, yup.....''
Walt.... you heard the true voice, or lack of intelligence thereof, on
a most well done regenerator. See folks, regenerators blow the socks off
when they are done correctly, and Walt has his done correctly, for sure.
It gives you all something to strive for.....

I use any of the screen grid tubes in the same manner. They are a bit
persnickety, and require a touch more fiddlin' than a triode, but can
work VERY WELL, if you get the parts right, and the adjustments right.
I usually default to triodes for simplicity, though, and they work well
enough to get anything I can hear. Pentodes will overloade very easily,
so you need to uncouple still further comparatively than with triodes.

> I'm fully regenerated from this experience and am very happy that Conard
> suggested a topic of the month. I still want to add another audio stage
> that I plan to peak for 1000 Hz. I also want to build a UY-227 set to
> compare to this battery set so I think I'll be busy in October.

The 27 has a mountainous reserve of emission, and should do you well.
The 24 is good too, as a pentode if you wanted to use that on the detector.

In my hands, a pair of tubes is all you need, if they are done right.
A third tube only hurts the ears, especially if you wear Baldies whilst
regenerating.....

> I have a couple of questions. I'm running 45 volts on the plate and 22.5
> volts on the screen; the old handbooks suggest 30 volts on the screen and
> 135 volts on the plate as the optimum operating condition. Does anyone
> have experience comparing the two conditions? If I add the 2nd audio
> stage, I think I will need a means to adjust the RF gain. Do any of you
> have suggestions as to how to do this. I'm thinking of varying the antenna
> coupling. Any suggestions?

I never run more that 48 volts (4 x 12 volts) on any regenerator in any
stage. If you use tin cans, there really is no reason to. If you don't
get a full headset of volume, something in the design is off or not set
right.

The RAL/RAK use 90 volts on the detector and 180 on the rf and af stages.

I run mine all on 90 volts, and can't tell much effective difference.
It is more important to run the audio full on and the front end to suit,
and adjust the input coupling to optimum.

> 73 de N7QFN,
> Walt

Well Done Walt!

73/ZUT DE NA4G/Bob UP

Date: Tue, 30 Sep 1997 08:51:14 -0700
From: Walt Turansky <turansky@xroads.com>
Subject: Re: Gain control

Conard,

I was planning to do just as you suggested and put a pot on the drive to
the peaked audio stage. I'm just wondering if anyone has some cleaver
ideas on how to vary antenna coupling.

Thanks for the response.

73 de N7QFN,
Walt

Date: Tue, 30 Sep 1997 11:01:26 -0700
From: Walt Turansky <turansky@xroads.com>
Subject: Re: Regenerative Weekend

Bob,

Thanks for the response; I was wondering what happened to you. And, thanks
for all the wonderfull postings on the art and science of regenerators.
When Conard proposed the monthly project I dug through the Glowbugs
archives I've saved and re-read all your advice. Then I dug out the ole
regenny and applied it. As you can see, it all works even in the hands of
a regenerating tyro. I hope you can get rejuved this weekend.

>Excellent! Ole BA Bob is lurking, but if I can squeek some time
>I will try to fire up something this weekend, on the regenerator, Miss
>Twinnie Triode, and ol' Grandma Hartley. I, likewise need some rejuving.

>I use a single plate cap to cover 3500-3600, with a single stator plate.
>You have to fiddle with the padding a bit to get it to track right on
>3500-3600, but it works great after the fiddlin'.

My tuning cap is single rotor plate, single stator plate. Based on my
calculations, the coil is about 80 uH so for 3500 Kc total capacitance is
about 26 pF. I guess that I have the padder set at about 7 or 8 pF and the
range of the tuning cap is about 1.5 pF. It tracks almost exactly with the

vernier dial.

>
>Ahh, this warms me ole ticker, fer sure......(:+}}... You have found the
>great Nirvana of Regeneratordom, and are of the One True Enlightenment!
>Well Done!!!!
>
>A few though I be a tad titched espousing thusly.....``a GOOD regenerator
>can cut the SideBands off a SillySideBand signal, yup, yup, yup.....''
>Walt.... you heard the true voice, or lack of intelligence thereof, on
>a most well done regenerator. See folks, regenerators blow the socks off
>when they are done correctly, and Walt has his done correctly, for sure.
>It gives you all something to strive for.....

It is truly an experience to hear how selective a good regenerator can be. I have read about your signal slicer and am happy that I could duplicate the results.

>In my hands, a pair of tubes is all you need, if they are done right.
>A third tube only hurts the ears, especially if you wear Baldies whilst
>regenerating.....

I think I'll take your advice. Local stations hurt my ears now. I guess I'll play around with finding the right capacitance to shunt across the secondary of the audio transformer to peak 1000 Hz.
>
>73/ZUT DE NA4G/Bob UP
>
>

I have the 6336A Hartley all ready to go so I'll be on 80 meters this weekend if the honeydo list isn't too long.

73 de N7QFN,
Walt

Date: Tue, 30 Sep 1997 11:22:56 -0700
From: Walt Turansky <turansky@xroads.com>
Subject: Re: Hartley Antenna Coupling

Eric,

I had planned to put the Svetlana SV811-10 in my Hartley but didn't want to spend the $35. I picked up a used 812 (lo mu version of the 811A) and planned to put that in but I haven't gotten around to it since I need to build a higher voltage power supply. Then I started thinking that I wouldn't gain anything over the 6336A that I am using since the plate dissapation ratings are about the same. I've been thinking of using a triode connected 813 and jump up to the 100 watt plate dissapation range. That means I ought to be able to run 40 watts in and maybe 10 watts out with a very cool looking tube. I'll probably leave the 80 meter Hartley as is and build a 40 meter Barracks Bag VFO (colpitts ECO) using the 813 and try running about 50 watts input. I'll save the 812 for a single ended amplifier.
>

>I think a really good tube for a Hartley would be the new Svetlana SV811-10.
>Don't know if you're familiar with it. Same size and shape as the 811A but
>with a somewhat lower rating. The plate goes to a base pin instead of a plate
>cap. Amplification factor is 10 instead of the 120 (or is it 160?) of the
>811A. I really wanted to get an 811A to work but it's too wild a critter for
>a Hartley! Some day when I have a spare $35 (which isn't often these days)
>I'll try the 811-10.
>
>73   Eric KA1YRV
>
>

73 de N7QFN,
Walt

Date: Tue, 30 Sep 1997 17:34:18 -0400 (EDT)
From: leeboo@ct.net (Leon Wiltsey)
Subject: MY REGEN

>To:GB
>From: leeboo@ct.net (Leon Wiltsey)
>Subject: MY REGEN
>Cc:
>Bcc:
>X-Attachments:
>
>>To:BA
>>From: leeboo@ct.net (Leon Wiltsey)
>>Subject: MY REGEN
>>
>>Hi Gang
>>
>>After reading all the reports on how good the regens you all made worked,
>>and having my hw 16 blow 2 filter caps.(ANYBODY GOT A JUNK HW16 THEY
>>WANT TO GET RID OF?I got out my regen which has been plagued with hum and
started working on it. First off I lowered the b+ by increasing the size of
a filter res and got the
>>b+ down to 189v. Then changed the voltage divider to the det tube a 6aq5
so as to have
>>less than 50v on the plate. With only 8v on the screen it osc.nicely and
the signals came rolling in. I could not believe how good it worked. With
150v on the plates of the 6sl7 dual
>>stage audio driver, and 190 on the 6aq5 output the volume was terrifiic
and the hum
>>went way down. Changing all the coupling caps to .001 in the audio also
helped, also added a high freq audio filter in grid cir of 6aq5 audio out ot
get rid of some of the high freq noise.I have
>>a two turn coupling link in series with a 5-27 uuf cap to the ant. and
this also sli.changes the
>>beat freq on cw.
>>
>>The final result is a regen that works as good as my old hw16 and tunes
over a much large range. With only one coil , I can cover all of 80 40 and
30 met. I have a switch that changes the cap of the bandspread cap so as to
make tuning roughly equal. Unless I can get some new parts for the hw 61 I

guess it will be relegated to standby duty as soon as my new 6ag7 osc
driving a 6l6 amp gets finished. Have the chassis all ready to start wiring.
>>
>>
>

Thank the good LORD for all that you have!!!

67yr old semi disabled senior
(stroke got my balance and coordination) SO ONLY BA'S NO SOLID STATE

Leon (lee) Wiltsey 4600 Lake Haven blvd Sebring fl. 33872
KF4RCL TECK+

End of glowbugs V1 #124
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Created by **Steve Modena, AB4EL**
Comments and suggestions to **modena@SunSITE.unc.edu**
